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Martin J. Edwards

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EXAMINER

TRAN, MY CHAU T

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/552,411 | Applicant(s) EDWARDS ET AL. | |
| | Examiner MY-CHAU T. TRAN | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 10 is/are allowed.
- 6) ☒ Claim(s) 1,6,9,11 and 12 is/are rejected.
- 7) ☒ Claim(s) 2-4,7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Application and Claims Status

1. Applicant's amendment and response filed 12/08/2008 are acknowledged and entered.
2. Claims 1-10 were pending. Applicants have amended claims 1, 2, 5, and 9; and added claims 11 and 12. No claims were cancelled. Therefore, claims 1-12 are currently pending and are under consideration in this Office Action.

Drawings

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. Here, the instant specification clearly states that figure 1 depicts a prior art active matrix array device (see specification pg. 8, line 5). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Here, the reference characters 522 and 524 in figure 9 are not found in the instant specification. Corrected drawing

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sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) is required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Status of Claim(s) Objection(s) and /or Rejection(s)

5. The objection of claim 5 has been withdrawn in view of applicant's amendments of claim 5 thereto.
6. The rejections of claim 9 under 35 USC 112, second paragraph, as being indefinite have been withdrawn in light of applicant's amendments of claim 9 thereto.
7. The rejection of claims 1-3, 6, and 9 under 35 USC 102(e) as being anticipated by Kageyama et al. (US Patent 7,221,343 B2) has been withdrawn in view of applicant's amendments of claims 1, 2, and 9.

New Rejection(s) – Necessitated by Amendment

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 6, 9, 11, and 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Akiyama (US Patent 6,278,426 B2).

For ***claims 1, 6, and 11***, Akiyama discloses a liquid crystal display device with a switching circuit (see e.g. Abstract; col. 1, lines 5-8; col. 2, lines 10-34; figs. 2, 6, and 20). The liquid crystal display device (refers to instant claimed active matrix array device) comprises a liquid crystal cell (ref. #11/611), a signal line drive circuit (ref. #17/617) that is connected to a plurality of signal lines (ref. #14/614), a scanning line driver circuit (ref. #16/616) that is connected to a plurality of scan lines (ref. #13/613) (refers to instant claimed plurality of addressing conductors), a control line driver circuit (ref. #18/618) that is connected to a plurality of control lines (ref. #15/615a and 615b), and a plurality of pixel portion (ref. #12/612) (refers to instant claimed plurality of matrix array elements); wherein the plurality of scan lines (ref. #13) and the plurality of control lines (ref. #15) (refers to instant claimed plurality of addressing conductors) cross the plurality of signal lines (ref. #14) (refers to instant claimed plurality of charging conductors) (see e.g. col. 9, lines 15-25; col. 14, lines 14-24; figs. 6 and 20). In one embodiment as illustrated by figure 2, Akiyama discloses that each unit of pixel (refers to instant claimed each matrix array element) comprises three capacitors (ref. #204, 214, and 212) and

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three transistors (ref. #203, 205, and 206) wherein each transistor includes a gate, source (ref. #S), and a drain (ref. #D) (see e.g. col. 5, line 47 thru col. 6, line 8). In figure 2, the unit of pixel shows that the gate of transistor (ref. #203) (refers to instant claimed control terminal of the first switch) connects to the scan line (ref. #201) (refers to instant claimed an associated addressing conductor), the source of transistor (ref. #203) (refers to instant claimed first data terminal of the first switch) connects to the signal line (ref. #202) (refers to instant claimed an associated charging conductor), and the drain of transistor (ref. #203) (refers to instant claimed second data terminal of the first switch) connects to a junction (ref. #A), which connects to the gate of transistor (ref. #205), capacitor (ref. #204), and capacitor (ref. #214). The capacitor (ref. #204) is connected between the gates of the transistor (ref. #205) and transistor (ref. #206) (see e.g. col. 5, lines 47-59; fig. 2). Also depicted by figure 2, the gate of transistor (ref. #206) (refers to instant claimed control terminal of third switch and instant claim 11) connects to the capacitor (ref. #204) (refers to instant claimed second capacitive device) and the drain of transistor (ref. #206) connects to the power source (ref. #209) (see e.g. col. 5, lines 60-63). These disclosures imply that Akiyama discloses the limitations of a) *'a first capacitive device coupled to a second data terminal of the first switch'*; b) *'a second capacitive device coupled to the first capacitive device via a second switch having a control terminal'*; and c) *'a third switch coupled between the first capacitive device and a potential source, the third switch having a control terminal coupled to the second capacitive device'* as claimed in instant claim 1. As shown in figure 2, the reference #Vsig of the signal line (ref. #202) (refers to instant claimed plurality of charging conductors) imply that a potential source is provided via the associated charging conductor as claimed in claim 6.

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For **claims 9 and 12**, Akiyama discloses a liquid crystal display device with a switching circuit (see e.g. Abstract; col. 1, lines 5-8; col. 2, lines 10-34; figs. 2, 6, and 20). The liquid crystal display device (refers to instant claimed electronic device/active matrix array device) comprises a signal line drive circuit (ref. #17/617) that is connected to a plurality of signal lines (ref. #14/614), a scanning line driver circuit (ref. #16/616) (refers to instant claimed first drive circuitry) that is connected to a plurality of scan lines (ref. #13/613) (refers to instant claimed plurality of addressing conductors), a control line driver circuit (ref. #18/618) (refers to instant claimed second drive circuitry) that is connected to a plurality of control lines (ref. #15/615a and 615b), and a plurality of pixel portion (ref. #12/612) (refers to instant claimed plurality of matrix array elements); wherein the plurality of scan lines (ref. #13/613) and the plurality of control lines (ref. #15/615a and 615b) (refers to instant claimed plurality of addressing conductors) cross the plurality of signal lines (ref. #14/614) (refers to instant claimed plurality of charging conductors) (see e.g. col. 9, lines 15-25; col. 14, lines 14-24; figs. 6 and 20). Akiyama also disclose that a power source line are also formed (see e.g. col. 9, lines 15-25), which imply that the crystal display device also comprise a power supply as claimed in claim 9. In one embodiment as illustrated by figure 2, Akiyama discloses that each unit of pixel (refers to instant claimed each matrix array element) comprises three capacitors (ref. #204, 214, and 212) and three transistors (ref. #203, 205, and 206) wherein each transistor includes a gate, source (ref. #S), and a drain (ref. #D) (see e.g. col. 5, line 47 thru col. 6, line 8). In figure 2, the unit of pixel shows that the gate of transistor (ref. #203) (refers to instant claimed control terminal of the first switch) connects to the scan line (ref. #201) (refers to instant claimed an associated addressing conductor), the source of transistor (ref. #203) (refers to instant claimed first data terminal of the

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first switch) connects to the signal line (ref. #202) (refers to instant claimed an associated charging conductor), and the drain of transistor (ref. #203) (refers to instant claimed second data terminal of the first switch) connects to a junction (ref. #A), which connects to the gate of transistor (ref. #205), capacitor (ref. #204), and capacitor (ref. #214). The capacitor (ref. #204) is connected between the gates of the transistor (ref. #205) and transistor (ref. #206) (see e.g. col. 5, lines 47-59; fig. 2). Also depicted by figure 2, the gate of transistor (ref. #206) (refers to instant claimed control terminal of third switch and instant claim 12) connects to the capacitor (ref. #204) (refers to instant claimed second capacitive device) and the drain of transistor (ref. #206) connects to the power source (ref. #209) (see e.g. col. 5, lines 60-63). These disclosures imply that Akiyama discloses the limitations of a) *'a first capacitive device coupled to a second data terminal of the first switch'*; b) *'a second capacitive device coupled to the first capacitive device via a second switch having a control terminal'*; and c) *'a third switch coupled between the first capacitive device and a potential source, the third switch having a control terminal coupled to the second capacitive device'* as claimed in instant claim 9.

Alternatively, the claimed invention further differs from the prior art teachings only by the recitation of:

For **claims 1 and 9**, the limitation that *'a control terminal responsive to a first enable signal'* is interpreted as the functional limitation for the instant claimed control terminal of the second switch; and the limitation that *'the second capacitive device having a smaller capacitance than the first capacitive device'* is interpreted as the functional limitation for the instant claimed second capacitive device. The claimed invention appears to be the same or obvious variations of the reference teachings, absent a showing of unobvious differences. The

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office does not have the facilities and resources to provide the factual evidence needed in order to determine and/or compare the specific activities of the instant versus the reference of Akiyama. In the absence of evidence to the contrary, the burden is upon the applicant to prove that the claimed composition is different from the one taught by prior art and to establish the patentable differences. See *In re Best* 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and *Ex parte Gray* 10 USPQ2d 1922 (PTO Bd. Pat. App. & Int. 1989). As a result, the devices of Akiyama would still anticipate the presently claimed devices since it meets all the structural limitation of the claimed devices of claims 1 and 9, i.e. a) plurality of charging conductors, b) plurality of addressing conductors, c) first drive circuit, d) second drive circuit, e) power supply, and f) plurality of matrix array elements wherein each matrix array element comprises 1) a first switch, 2) a second switch, 3) a third switch, 4) a first capacitive device, and 5) a second capacitive device.

Therefore, the devices of Akiyama do anticipate the instant claimed invention.

Response to Arguments

10. Applicant's arguments directed to the above 102(b) rejection were considered but they are not persuasive for the following reasons. Please note that the above rejection has been modified from its original version to more clearly address applicant's newly amended and/or added claims and/or arguments.

[1] Applicant alleges that Akiyama does not disclose all the structural features of the device of amended claims 1 and 9 and new claims 11 and 12. Thus, the device of Akiyama does not anticipate the instant claimed invention.

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This is not found persuasive for the following reasons:

[1] The examiner respectfully disagrees. It is the examiner's position that the devices of Akiyama do anticipate the instant claimed invention. First, the reference of Akiyama does disclose all the structural features of the device of amended claims 1 and 9 and new claims 11 and 12 as discussed fully in paragraph 9 above. Second, the comprising language of the instant claims 1 and 9 does not exclude the additional feature, i.e. the junction (ref. #A) that connects the transistors (ref. #203 and 205) and capacitors (ref. #204 and 214), of Akiyama. See MPEP § 2111.03, which states:

The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps.

Third, the functional limitation of '*the second capacitive device having a smaller capacitance than the first capacitive device*' does not does not impart any structural distinction between the instant claimed second capacitive device and the capacitor (ref. #204) of Akiyama ., and as a result it is not given any patentable weight. See MPEP § 2114, which states as follows:

APPARATUS CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM THE PRIOR ART

>While features of an apparatus may be recited either structurally or functionally, claims< directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); < In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

MANNER OF OPERATING THE DEVICE DOES NOT DIFFERENTIATE APPARATUS CLAIM FROM THE PRIOR ART

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

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Therefore, the teachings of Akiyama do anticipate the device of the instant claims, and the rejection is maintained.

Allowable Subject Matter

11. Claims 2-4, 7, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 5 and 10 are allowable.

13. The following is a statement of reasons for the indication of allowable subject matter of claim 5: The instant claim 5 is allowable for the reason that the cited prior arts do not teach or fairly suggest the presently claimed device with the structural feature combination of *'the second capacitive device comprises a first sub-device and a second sub-device, the first sub-device having a first terminal coupled to a first enable conductor for providing the first enable signal and a second terminal coupled to a data terminal of the second switch, the second sub-device having a first terminal coupled to the data terminal of the second switch and a second terminal coupled to a second enable conductor for providing a second enable signal and wherein the third switch is coupled between the first capacitive device and the fourth switch'*.

14. The following is a statement of reasons for the indication of allowable subject matter of claim 10: The instant claim 10 is allowable for the reason that the cited prior arts do not teach or

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fairly suggest the presently claimed method with the method steps combination of *‘storing a first voltage across the first capacitive device of a matrix array element; storing the first voltage across the second capacitive device of the matrix element; and replacing the first voltage across the first capacitive device of the matrix array element with a second voltage’*.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MY-CHAU T. TRAN whose telephone number is (571)272-0810. The examiner can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MY-CHAU T. TRAN/
Primary Examiner, Art Unit 2629

February 17, 2009